



At
3726

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

C. Kent Aldridge

§ Group Art Unit: 3726

Serial No.: 09/966,487

§ Examiner: Compton, Eric B.

Filed: September 28, 2001

§ Atty. Docket: DODG:0046/YOD
§ 01RE145

For: METHOD AND APPARATUS FOR
INSTALLING BEARING SEALS AND
BEARING INCORPORATING SAME

Mail Stop Appeal Brief-Patents
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4-20-04

Carla Deblaw

Date

Carla Deblaw

REPLY BRIEF

This Reply Brief is in reply to the Examiner's Answer mailed on February 20, 2003. In the Examiner's Answer, the Examiner withdrew the rejections based on McLarty, U.S. Patent No. 5,242,229. Thus, the only remaining rejection is the rejection of claims 8-21 and 38-47 under 35 U.S.C. § 103 as being unpatentable over Mondak et al., U.S. Patent No. 5,695,290, in view of Reiter, U.S. Patent No. 4,336,971.

Appellant has reviewed the Examiner's Answer and respectfully reiterates that the Examiner has failed to make a *prima facie* case of obviousness of the claims. Furthermore, Appellant files this Reply Brief to address certain statements made by the Examiner in the Examiner's answer.

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Appellant respectfully submits that the Examiner has failed to establish that the cited references disclose or suggest all of the recited features of the claims. For example, some of the recited features of independent claims 8 and 15 that are not disclosed or suggested by the cited references, either alone or in combination, are: “crimping a first seal member to the first interface surface of the inner ring” and “crimping a second seal member to the second interface surface of the outer ring.” In the Response to Arguments portion of the Examiner’s Answer, the Examiner stated that:

Mondak discloses a bearing assembly having first and second seal members attached to inner and outer bearing rings, respectively. “Locking fingers 60 [of the second seal member] extend from the annular portion into the annular groove 50 [of the first seal member] extend into the corresponding annular groove 50 [of the inner bearing ring].” Col. 2, lines 65-66. Mondak further discusses “the seal may be made of spring tempered material with spring locking fingers” that “snap into the grooves in the rings at assembly to provide mechanical retention of the seal, resisting dislodging of these seal during handling and installation or during relube.” Col. 3, lines 26-30. This attachment means is consistent with Appellant’s discussion of prior art snap-fit engagements. See Specification, page 2.

However, Mondak does not disclose crimping the first and second seal elements to the inner and outer bearing rings, as claimed by Appellant. (Emphasis added)

The Examiner relied on the Reiter reference to teach crimping a seal element to a bearing ring. Specifically, the Examiner stated on page 6 of the Examiner’s Answer that:

Initially, the end of the axial wall 62 on each case 60 is straight so that it easily fits over the turned down end surface 34 on the cup 24 or 26, but once the seal case 60 is pressed onto the cup 24 or 26, its axial wall 62 is deformed inwardly into annular groove 32 adjoining the turned down surface 34 to secure the seal case 60 firmly on the cup 24 or 26.” (col. 6, lines 35-41).

Regarding claims, (sic) 8, 15, and 41, it would have been obvious to one having ordinary skill in the art at the time the

invention was made, to have crimped the first and second pieces of the bearing seal to the inner and outer races, respectively of the bearing of Mondak, in light of the teachings of Reiter, in order to secure the seal onto the bearing race so that it cannot be withdrawn (see Col. 7, lines 41-43). (Emphasis added)

However, contrary to the Examiner's assertion, it would not have been obvious to one having ordinary skill in the art to have crimped the first metal piece 54 and the second metal piece 56 of Mondak to the annular outer ring 12 and the annular inner ring 10, respectively, because the Mondak reference already discloses locking fingers 60, 64 for snap-fitting the first metal piece 54 and the second metal piece 56 to the annular outer ring 12 and the annular inner ring 10, respectively. Thus, the Examiner's argument that it would have been obvious to have crimped the first and second pieces of the bearing seal to the inner and outer races of the bearing of Mondak "in order to secure the seal onto the bearing race so that it cannot be withdrawn," is not persuasive because the Mondak reference had disclosed a method for securing the first metal piece 54 and the second metal piece 56 to the annular outer ring 12 and the inner annular ring 10, respectively, to prevent them from being withdrawn. Thus, there would have been no reason for one skilled in the art to look to the Reiter reference for a means for securing the first and second metal parts 54, 56 to prevent them from being withdrawn. Furthermore, there is nothing in either the Mondak or the Reiter references that suggests crimping is a more desirable method for securing the first and second metal parts 54, 56 to the inner and outer rings 10, 12, respectively, than is the locking fingers 60, 64 that are disclosed in the Mondak reference. The Examiner simply has not provided an adequate motivation for the suggested combination.

In addition, in the Response to Arguments portion of the Examiner's Answer, the Examiner stated that: "Appellant has not put forth any evidence that the method of Reiter is unreliable or unsuccessful." However, the burden is not on the Appellant to show a reason not to combine the references. Rather, the burden is on the Examiner to provide evidence from the prior art that suggests the desirability of making the combination. When prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e.,

something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988). In this case, the Examiner has obtained the motivation for the combination by hindsight gained from the Appellant's invention, not the prior art.

Finally, the Examiner stated on page 9 of the Examiner's Answer that:

Mondak discloses a seal assembly having first and second seal members attached to inner and outer bearing races, respectively. Thus, forming a seal assembly having first and second seal members by crimping the seal members to the inner and outer races, as taught by Reiter, inherently suggest the step of "crimping a first seal member to the first interface surface of the inner ring," would be inherently suggested.

However, the Reiter reference does not "*inherently suggest* the step of 'crimping a first seal member to the first interface surface of the inner ring.'" The Examiner assumes that there is no difference in forming a seal member to snap-fit into a groove and crimping the seal member into the groove. However, that is not true. In Reiter, a seal case 62 is crimped to the outer surface of a cup 24. *See* Reiter, Fig 2. The outer surface of the cup 24 and the seal case 62 are easily accessible to a crimping tool because they are located on the exterior of the bearing assembly. *See* Reiter, Fig 2. In contrast, the first metal part 54 of Mondak would have to be crimped to the interior surface of the annular outer ring 12 in order to secure the first metal piece 54 to the annular outer ring 12. A tool would have to be inserted into the annular outer ring 12 and urged outward to crimp the first metal part 54 to the annular outer ring 12. This requires a different tool and a different approach to crimping than the approach to crimping followed by Reiter. It simply is not true that the Reiter reference inherently suggests the means or the method for crimping the first metal part 54 to the interior surface of the annular outer ring 12 of Mondak. Furthermore, the crimping of the first metal part 54 to the interior surface of the annular outer ring 12 would have to be performed after the second metal part 56 is crimped to the annular inner ring 10 of Mondak. However, the Reiter reference does not enable one skilled in the art how to perform either of these crimping actions.

Conclusion

In view of the above remarks, favorable consideration by the Board is respectfully requested.

Respectfully submitted,

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Ralph A. Graham
Reg. No. 47,607
FLETCHER YODER
P.O. Box 692289
Houston, TX 77269-2289
(281) 970-4545

CORRESPONDENCE ADDRESS

ALLEN-BRADLEY COMPANY, LLC
Patent Department/704P Floor 8 T-29
1201 South Second Street
Milwaukee, Wisconsin 53204
Attention: Mr. Alexander Gerasimow
Phone: (414) 382-2000